CHAMBERS'S

GEOGRAPHICAL READER

STANDARD II.

W. & R. CHAMBERS
LONDON AND EDINBURGH
1888

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PREFACE.

THIS little book has been written with a view to place before the children of Standard II. the geographical knowledge required of them by the Code of 1882.

The aim of the book has been to give the child geographical ideas rather than geographical facts, and to enable him to grasp these more easily by associating them with what he already knows. The illustrations have been taken from facts that are within his own experience, and open to his own observation.

Numerous maps and illustrations have been given to render this book more interesting and attractive, and it is hoped that these will also aid materially in helping to impress on the mind the substance of the lessons.

The spelling lists are more than usually full, and the more difficult words are explained at the end of the lessons.

EDINBURGH, 1883.

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GEOGRAPHICAL READER.

STANDARD II.

LESSON I.

WHAT IS THE EARTH?

MOST of you who will read this little book know something about geography.

2. You can tell the chief points of direction; and could, no doubt, explain what maps are, and why they are so useful.

3. You have been much interested in the map of England. It has taught you something about the country in which you live, though there is still much more to learn.

4. But the map of England will have done more than this. It will have made you wish to know more of other countries of which

you have heard the names. You have perhaps wondered which of them is at all like England in shape and size.

5. Now, when we tell you that our own country is a mere *spot* on the earth, compared with many other countries, this will set you thinking again. Your thoughts will be carried away from the countries to the great world which contains them all.

6. What a number of questions you will wish to ask about it! 'How large is it?' 'What shape is it?' 'What is it made of?' and 'What is the world?' would be amongst the many questions which puzzle your young minds.

7. Before we speak of the shape and size of the earth, it will be well that you should know what the world really is. It gives us greater interest in anything when we know exactly what it is.

8. Where are the boys or girls who have not had strange fancies about the countless numbers of stars which they have seen studding the sky on clear bright nights? What tiny, twinkling things some of them look! Some of them have a steady light, and revolve round our sun. These are called **planets.**

9. Our world is a planet. If we could take

our stand upon one of those large bright stars when it is night with them, the earth would appear to us just as they do when it is night here.

di-rec'-tion	puz'-zle	twink'-ling
won'-dered	in'-ter-est	re-volve'
ques'-tions	ex-act'-ly	ap-pear'

Learn and write:

Planets have a steady light. They revolve round the sun. Our world is a planet.

LESSON II.

THE SHAPE OF THE EARTH.

CHILDREN often ask, 'How far is it to the *edge* of the world, and what is there outside *over* the edge?' Wherever they stand and look around, the earth appears to them to be a broad, flat plain, with hills rising from it here and there.

2. It seems to them that, if they walked far enough, they would be sure to come to the edge of it. In fact, they have sometimes asked us what would become of them if they were to fall over when they reached the end of their journey!

3. A few hundred years ago, it was the firm

belief, not only of children, but of every one else too, that the earth was what it appears to be—a broad, flat plain. Some supposed that all round it, *over the edge*, there rolled a mighty river.

The Earth.

4. But these ideas were all mistaken ones, as we should find if we started to walk to the edge of the world, for we should never reach it. If we kept moving on and on *in the same direction*, we should at last find ourselves in

the place from which we started, *without having turned back.*

5. We could not have done this on a flat surface. You can see very plainly that all flat things have an edge. Tables, desks, plates, books, and slates all have edges. Lay your slate on the desk or table. Place your pencil upright on the middle of your slate, or on any other spot, and suppose it to be a little man or boy. If he walks on in one direction, he will reach the edge of the slate, and will need to turn back in order to come again to the spot from which he started. But if you hold the pencil on a ball, you will find that by moving it in the same direction all the way, you will bring it back to the same spot *without* turning again as on the slate.

6. Now, since we could start from a spot on the earth, and, going straight on, reach that spot again, this proves that the earth must be round like the ball, and not flat like the slate, as people once thought it to be.

7. Our world, then, is a great ball or sphere. It is not *perfectly* round, being slightly flattened at the top and bottom like an orange.

8. The earth is sometimes spoken of as a *globe*, but you must understand that the words ball, globe, and sphere, may be used in speaking

of any round solid body, since they each refer to things of the same shape. The distance *round* a ball, globe, or sphere, is called its **circumference**, and the distance *through* it is called its **diameter**. We must ask you to remember these two rather hard words, and what they mean, as we shall use them in another lesson.

chil'-dren	edge	ev'-er-y	di-rec'-tion
out'-side	reached	sup-posed'	sur'-face
wher-ev'-er	jour'-ney	rolled	sphere
ap-pears'	hun'-dred	i-de'-as	flat'-tened
e-nough'	be-lief'	mis-tak'-en	dis'-tance

appears, *seems to be.* | belief, *idea that it was true.*
sphere, *a round solid body.*

Learn and write:

The earth is a very large ball, globe, or sphere, not perfectly round, though almost so.

LESSON III.

Going to the Edge of the World.

1. Nine little people sat down to chat,
A very long time ago;
Each of them thought the world was flat,
For somebody told them so.

2. All of them thought it would be a good thing
Across to the edge to go;
So, early next morning, just in the spring,
They set out all in a row.

3. Where they would have been now, nobody knows,
All got so hungry and faint;
Jackets all torn—shoes out at the toes—
Faces as brown as paint!

4. Two little children, coming from school,
Found them all under a tree,
Sitting awhile to try and get cool,
Crying as hard as could be!

5. 'Where do you come from, nine little men?
Where, may we ask, are you bound?
Trying to reach the edge of the world!
But do you not know it is *round?*

6. 'You had better go home, and go to school,
Such work as this will not do;
You thought the earth flat! Go, sit on a stool
Till you can read Standard Two.'

some'-bod-y	hun'-gry	bound
thought	sit'-ting	reach
would	cry'-ing	edge

chat, *to talk.* | bound, *going.*

LESSON IV.

OTHER PROOFS THAT THE EARTH IS ROUND.

MANY of you have spent at some time a happy day or two at the sea-side. You have found many things to amuse you there, not the least amongst them being that of watching steamers or sailing-vessels coming and going across the sea.

2. No doubt you have often sat down on the rocks when tired of play, and, looking as far as your eye could reach across the sea, watched for some sign of a vessel coming near. Presently you have seen a little smoke curling in the distance, or caught sight of the white sails of a ship.

3. After waiting a few minutes, you have been able clearly to see the funnel of the

steamer, or masts of the ship. Then, as the vessel has come nearer to the shore, you have been able to see the whole of it.

4. But how was it that you could not see the whole ship when you first saw the smoke or the sail? Because it was coming round the corner, do you say? Remember there are no corners on a ball. The vessel was coming round the *curve* of the earth.

5. Now, had the earth been quite flat, you could have seen the whole vessel at once; but as it had to sail round a very gentle curve, the top came in sight first. And so with a ship sailing away from the shore, the top masts would be the last part of it to disappear from your view.

6. Vessels often sail round the world. By always steering in one direction, they again reach the place they started from. It is now more than three hundred years since the first voyage round the world was made. Before that time no one dared to sail far away from

land. You would enjoy reading a history of this first voyage round the world. Read it as soon as you can.

7. You have sometimes heard people say, 'There will be an eclipse of the moon to-night.' Now, when there is an **eclipse of the moon,** we have a very plain proof that the earth is round, for its *shadow* is cast upon the moon, and we can *see* that it is round. The earth is not always in the same position when its shadow is seen upon the moon, yet the shadow is always round. This proves that the earth is *round like a ball,* not round and *flat* like a plate.

hap'-py	pres'-ent-ly	gen'-tle	his'-to-ry
watch'-ing	clear'-ly	dis-ap-pear'	e-clipse'
steam'-ers	fun'-nel	di-rec'-tion	po-si'-tion
sail'-ing	re-mem'-ber	voy'-age	sha'-dow

eclipse, *darkness.*

Learn and write:

The earth's shadow is sometimes cast upon the moon, and as it is always round, though cast from different positions, the earth must be of a round form.

LESSON V.

THE SIZE OF THE EARTH.

MANY of you have friends who have left England, and sailed away across the seas to live in other countries.

2. Some of them have gone to America, and it has taken them perhaps ten days to reach there, though their voyage has been made in a steamer. Others have gone to Africa or India, and their journey has taken four or six weeks to perform. Some have gone to still more distant lands, and may have been twelve or more weeks in reaching their new home.

3. Have you ever thought what a very large ball this world must be, if it takes so long to travel from one country to another upon it?

4. If you could walk right round the world at the rate of thirty miles a day, it would take you nearly *three years* to finish the journey, and you would have travelled about twenty-five thousand miles! If you could travel round it in a very quick train, you would have to go steaming along *night and day* for nearly a month! You would then have travelled the whole *circumference* of the earth. The *diameter* of the earth, or the distance *through* it, is about eight thousand miles.

5. Large as our world is, it is not the

Comparative size of the Earth and Moon.

largest planet. It is their very great distance from us that makes the planets, as well as all the stars, appear so small. The earth is many times larger than the moon, as you will see from the picture. Yet the moon looks larger to us than the planets, many of

which are larger than the earth. The reason is that the moon is so much nearer to us.

6. Some of you will perhaps say, 'The earth cannot be quite round like a ball or an orange. The trees and hills and mountains that stand out upon it must make it very uneven, and we wonder how the shadow appears so round.' But the earth is so large that the highest mountain upon it appears no larger than a grain of sand would upon a football. The larger the ball, the smaller anything upon it will look.

7. Here is a small ball. If we place this little pin upon it, it seems to stand out a long way from the surface of the ball. But if we place the pin on a larger ball, it will not look nearly so large compared with the ball.

8. You sometimes have an orange with a very rough rind. But the roughness does not alter the shape of the orange. The earth is so large a ball, that the roughness caused by the hills and mountains is no more than that on the orange.

9. No doubt some of you will be ready to ask, 'How has any one been able to measure the exact size of the earth?' 'What does the earth rest upon, or how is it held up?' 'What is there inside the earth?' 'How is it that

people and ships and other things do not tumble off as they go round this great globe?' But we cannot answer these questions in a book on geography. You will learn them from other kinds of books when you grow older.

10. It will amuse you to know that hundreds of years ago it was thought by some that the world was propped up by very large, strong pillars. Others thought it rested on the shoulders of a great man named Atlas. The Hindoos supposed it to be placed on the back of an elephant! We can scarcely think that they enjoyed living in this beautiful world as much as we do, with their strange, uncomfortable sort of fancies about it.

coun'-tries	thou'-sand	caused	propped
jour'-ney	com-pared'	meas'-ure	scarce'-ly
trav'-elled	rough'-ness	ques'-tions	un-com'-fort-a-ble

circumference, *distance round.* | diameter, *distance through.*
Hindoos, *people who live in India.*

Learn and write:

The circumference of the earth is about twenty-five thousand miles, and its diameter about eight thousand. It is many times larger than the moon, but smaller than some of the planets.

LESSON VI.

Once upon a Time.

THERE was a time when
boys and girls,
And grown-up people too,
Strange fancies had about
this world,
Which I will tell to you.

2. Some thought that pillars
propped it up,
And kept it from a fall;
But what the pillars rested
on
Was a puzzle to them all.

3. Then others thought a
giant man,
Who had done something wrong,
Was made to bear this mighty weight
Upon his shoulders strong!

4. Some even thought an elephant
Had got it on his back!
I wonder that they could not see
It would have made it crack.

5. Mother says that boys and girls
Were *very* proper then,
And never made such dreadful noise
As we do now and then.

6. Perhaps they were afraid to romp,
Lest they should shake the world,
And make the elephant walk off,
His trunk around it twirled!

7. I'm glad that we know better now.
Whatever should we do
Without our noise, and romps, and games,
With so much work to do?

fan'-cies	puz'-zle	shoul'-ders
pil'-lars	gi'-ant	el'-e-phant
propped	weight	twirled

giant, *very large.* | twirled, *twisted.*

LESSON VII.

LAND AND WATER.

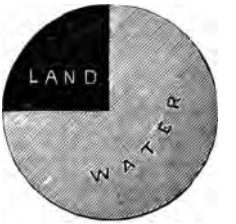
YOU ask what this great globe is made of. When you are going to eat an orange, you take off the outside, and attend to the inside of it only. How very different the one is from the other! The inside of the world is quite different from the outside.

2. But it is only the *outside* of the earth with which geography has to do. Therefore

there is no need for us to take off the rind and talk about the *inside*, as you do with your oranges.

3. Well, then, the surface or outside of the world is made of **land** and **water.**

4. There is three times as much water as there is land upon the surface of the earth. Had brave men never sailed across the seas, nor traversed unknown lands, we might never have known how small a portion of the earth is covered with land, or how great a part with water.



5. Here are maps showing you the land

Eastern Hemisphere.

Western Hemisphere.

and water of the earth. You know you cannot see both sides of a very large ball

at once. But if you cut the ball in halves, and lay the flat parts on a table, then you can see both sides at once. These maps show you the two halves of the earth as if it were cut through from north to south. They are called **hemispheres** or *half* spheres. One shows the eastern half of the world, the other the western.

6. Here are two other maps showing the world divided across from west to east. These are northern and southern hemispheres, because

Northern Hemisphere. Southern Hemisphere.

they are the northern and southern halves of the globe. You will see from them that there is more land in the north of the world than in the south.

7. How varied in shape the land is! Here we see a large, broad tract stretching from west

to east; there another, from north to south; another still, seeming to make an effort to get quite to the south. Then we see narrow strips of land joining the larger ones together here and there; and very many smaller pieces of different shapes and sizes standing out alone from the great mass of land.

8. But what a vast expanse of water there is compared with the land! And how it seems to have gained the mastery over the land; running into it in wide openings or narrow inlets, and rushing right round some of the smaller pieces of land!

9. We could not speak about these different forms of the land and parts of the water if we had no separate *names* to give them. But in geography we find a name for each of them, from the largest to the smallest division of land or portion of water.

sur'-face	halves	stretch'-ing	mas'-ter-y
a-cross'	hem'-i-spheres	nar'-row	op'-en-ings
trav'-ersed	east'-ern	ex-panse'	sep'-ar-ate
cov'-ered	di-vid'-ed	com-pared'	di-vi'-sion

traversed, *travelled over.* | expanse, *space.*

Learn and write:

The surface of the earth is composed of land and water. There is three times as much water as land upon the earth.

LESSON VIII.

THE LAND AND ITS NAMES.

CLIFFS AND CAPES.

A Headland.

THE land nearest the sea is called the *coast*. England has a great extent of coast, because so much of it touches the sea.

2. When you look at the map of England, you observe that the *coast-line* is very crooked. But the map gives you the shape of it only. You cannot judge by it how different the coast looks in various parts.

3. If you could take a sail round England, at a little distance from the coast, you would see for yourselves how very different it is in some parts from others. But, since you cannot do that at present, the next best

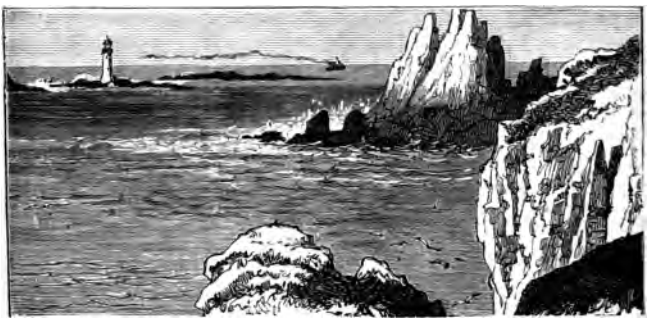
thing to do is to learn all you can about it from books and pictures.

4. In some parts the coast rises from the sea in steep heights, on the flat tops of which houses or towns are built. These heights are called **cliffs.** In some parts of the coast they are white like chalk, in others

Dover.

red and sandy-looking. Here is a picture of the cliffs of Dover, on the south-east coast of England.

5. The land sometimes juts out into the sea for some distance. Such a piece of land is called a **cape** or a **point**. We do not use the name *cape* around our English coasts; *head* or *point* is the common name. When they rise very high and bold, they are called **headlands** or **promontories**. You will find Flamborough Head and Spurn Head on the east coast of England, Beachy Head on the south, and



Land's End.

St Bees Head on the west. Land's End, on the coast of Cornwall, is a bold rocky promontory, the most southern point of England. On many parts of the coast of Scotland, a promontory is called a **mull**.

6. Sometimes the land which juts out into the sea lies quite low. It is then called a **ness**, or **naze**, which means *nose*. On the

east coast we have Lowestoft Ness and The Naze, and on the south, Dungeness. The name **foreland** is given to two promontories in Kent, which you will find quite easily on the map, marked as **North** and **South Foreland.**

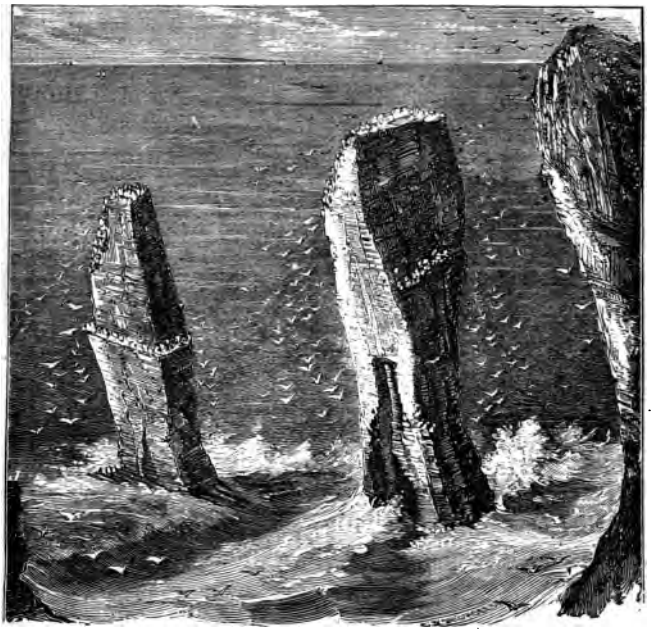
7. On the southern coast of England there are several pieces of land of a very curious shape jutting out into the sea. They taper to a point, and are something like the head and bill of a goose or duck in shape. Two of these are called **Portland Bill** and **Selsea Bill.**

8. There are **lighthouses** placed on the most dangerous headlands of our coast. There is a fine one on Flamborough Head. Their lights are kept burning all night, to warn sailors where the rocks are, so that they may steer clear of them. There are not many wrecks near the lighthouses.

9. Around the coast there are many caves, which have been formed by the action of the sea. The constant dashing of the waves against the land wears it away underneath in time, and often forms holes or caves running some distance into the land.

10. Here and there huge pieces have been slowly cut away by the sea. Our picture

shows some rocks of this kind, called the Stack Rocks, off the coast of Pembroke.



The Stack Rocks.

ex-tent'	prom'-on-tor-ies	Flam'-bor-ough	und'-er-neath'
crook'-ed	south'-ern	burn'-ing	dis'-tance
head'-lands	dan'-ger-ous	con'-stant	Pem'-broke

Learn and write:

A point, cape, head, promontory, ness, or bill is a piece of land jutting out into the sea. The constant motion of the sea sometimes wears away the coast, and often cuts huge pieces right away.

LESSON IX.

ROCKS AND SANDBANKS.

THERE are other dangers besides the capes and headlands which the ships must try to escape.

2. In some parts there are huge rocks lying out miles from the coast, and most dangerous to ships. They sometimes lie just under the water, and are not noticed until a vessel is tossed upon them by the waves, and wrecked. Their position is marked on charts or ships' maps, and a very careful look-out is kept as the vessels come near them. But in spite of all care, ships are often wrecked upon them during a storm.

3. Not far from the coast of Cornwall, and almost opposite the famous town of Plymouth, are the dangerous Eddystone rocks, on which the famous lighthouse stands, about which you will hear more in the next lesson.

4. On the east coast of England there are many **sandbanks**, which are even more dangerous to ships than rocks. The most dangerous of all are the Goodwin Sands, which stretch for about twelve miles along the eastern coast of Kent, and cannot be

seen when the tide is high. These sandbanks were joined to the mainland eight hundred years ago, though they are now fully five miles from it. Many ships are wrecked upon them every year, and many more lives would be lost but for the lifeboats, which are ready to go out to the wrecks directly they hear a signal of distress.

5. We can scarcely wonder that sailors should have been afraid to venture far from

A Light-ship.

land when there were no lighthouses to warn them of danger, nor lifeboats to rescue them when their lives were in peril.

6. You will perhaps have been wondering if there is nothing to warn the ships off the Goodwin Sands. It would be no use to build a lighthouse on the sands, for it would soon be washed away. So there are several *light-ships* placed near them, fastened to strong stakes driven into the sands. There are at least two men on each ship, and when night comes, they hang lanterns on the masts. Some of these men would tell you sad tales of wrecks, if you paid a visit to the Sands. Many people go there at low water, and even walk upon them. In spite of the danger they present, these sandbanks are of some service to ships, as we shall see in a future lesson.

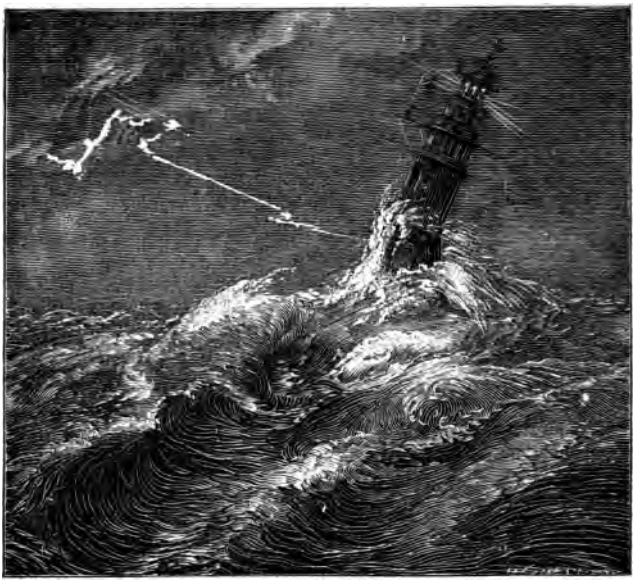
head'-lands	fa'-mous	life'-boat	per'-il
Corn'-wall	Good'-win	di-rect'-ly	sev'-er-al
op'-po-site	main'-land	sig'-nal	fast'-ened
Ed'-dy-stone	wrecked	res'-cue	lan'-terns

chart, *a map of the sea.*
signal, *sign.*

rescue, *save.*
peril, *danger.*

Learn and write:

Many ships are wrecked on hidden rocks, many on sandbanks. The sandbanks known as the Goodwin Sands lie off the coast of Kent.



Destruction of the first Eddystone Lighthouse.

LESSON X.

THE STORY OF THE EDDYSTONE LIGHTHOUSE.

NO doubt you would like to hear more about the famous Eddystone lighthouse which we mentioned in our last lesson.

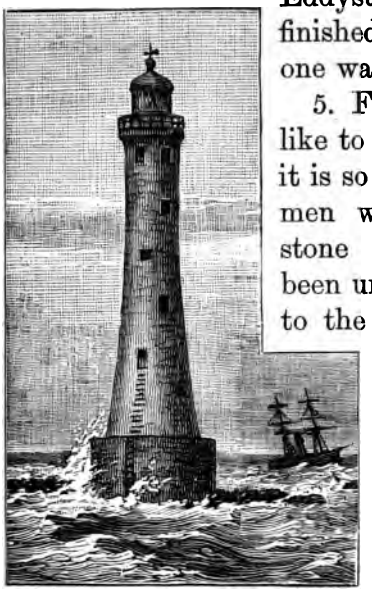
2. It is nearly two hundred years since the first one was built. It was built of wood, and though the light was sixty feet above the rock, the waves rose higher still, and often

washed it out. The tower was then raised to a hundred and twenty feet, but this was too high to stand firmly against the wind. During a heavy storm, which occurred about five years after it was built, it was washed away. The brave man who first thought of building it was in the lighthouse when the storm came, and he and several workmen were washed away with it.

3. Three years afterwards, the second one was built. This, too, was of wood, but not so high as the first. It stood for fifty years, showing its welcome light to warn the passing ships of danger. But early one December morning about the middle of last century, the wood caught fire, and the whole building was burnt down.

4. Four years afterwards, the third lighthouse was built upon the same rock, stone being used for it instead of wood. The top of the rock was first cut smooth and flat, so that the lighthouse might have a firm foundation to stand upon. A few years ago it was found out that a small cave in the rock, which had not been filled up when the lighthouse was built, had slowly become so much larger, as to make the rock unsafe. It was thought best to build a new lighthouse

upon one of the other rocks, and the fourth Eddystone lighthouse was finished in 1882. The old one was then taken down.



The New Eddystone.

5. Few of you would like to live in a lighthouse, it is so lonely there. The men who live at Eddystone have sometimes been unable to cross over to the mainland for many weeks together, owing to the fury of the sea. What brave men they must be to live out there in such danger! There are never less than three men living there. When the second lighthouse was built, only two were sent to live in it. One of them died, and it was a month before the other could let any one know.

Ed'-dy-stone	**build'-ing**	**caught**	**fin'-ished**
men'-tioned	**sev'-er-al**	**in-stead'**	**lone'-ly**
high'-er	**wel'-come**	**found-a'-tion**	**un-a'-ble**
oc-curred'	**pass'-ing**	**un-safe'**	**main'-land**

occurred, *took place.* | **foundation,** *base, or groundwork.*

Learn and write:

It is nearly two hundred years since the first Eddystone lighthouse was built. It was blown down with its brave builder one terrible night. The second lighthouse was burned down; the third stood until it was taken down after the fourth was built in 1882.

LESSON XI.

ISLANDS.

An Island.

NO doubt some of you have often spent an hour or two at the seaside in building up a high mound of sand. You have then climbed to the top of it to watch the tide come in.

2. You have sat very lazily for some time, whilst each wave has brought the water nearer to your little piece of land. At last, the water has swept right round the base of

your mound, and you have thought it time to seek safety on the shore. Your mound has been changed into a little **island.**

3. An **island** is a piece of land entirely surrounded by water. Your island was a very tiny one indeed, but large enough to show you what an island really is.

4. But, lying at a little distance from the coast of England in various parts, there are islands upon which people live. Some of them are small, rocky islands, one or two miles round, with only a few fishermen living upon them.

Map of an Island—Isle of Wight.

5. Others are large enough to contain many thousands of people, and have towns built

upon them. Two of these are the beautiful Isle of Wight, close to the south coast, and the Isle of Man, lying at a much greater distance off the west.

6. Large as these two islands may seem to you, they are exceedingly small compared with many others in different parts of the world. The islands of New Zealand, far away across the seas, are very much larger. Australia is a larger island still; it would take weeks to sail round it. England and Scotland together form one large island called Great Britain.

7. There is little doubt that many of the small rocky **islets** which lie very near our coast, once formed part of the coast itself. But the action of the sea has separated them from the mainland. The sea wears away the land very slowly.

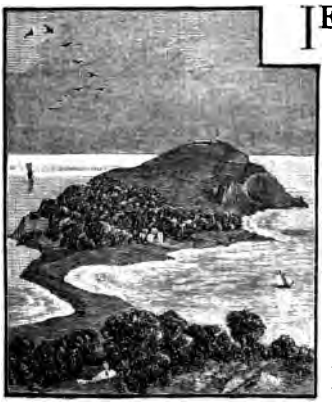
build'-ing	is'-land	fish'-er-men	com-pared'
climbed	en-tire'-ly	beau'-ti-ful	doubt
la'-zi-ly	sur-round'-ed	ex-ceed'-ing-ly	sep'-ar-at-ed

Learn and write:

An island is a piece of land entirely surrounded by water. Many islands are the tops of mountains rising from the bottom of the sea. Very small islands are called islets. There are both rocky islets and beautiful fertile islands round the coast of England.

LESSON XII.

PENINSULA AND ISTHMUS.



A Peninsula.

IF you will turn for a moment to the map of the world in Lesson VII., you will notice many pieces of land *almost* surrounded by water. It seems as if the sea could easily flow over the narrow strips of land which join them to others, and thus turn them into islands.

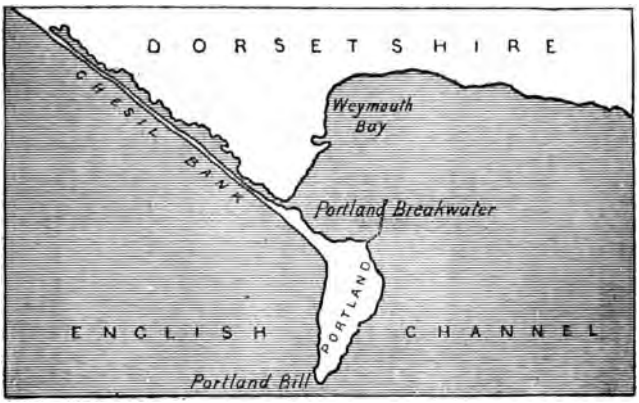
2. A piece of land *almost* surrounded by water is called a **peninsula**. The narrow neck of land which joins a peninsula to another tract of land is called an **isthmus**.

3. You will be able to point out many peninsulas on the map of the world, and will see that they are as varied in shape and size as the islands are.

4. About half-way along the southern coast of England there is the peninsula of Portland,

at the end of which is the cape called Portland Bill.

5. This strange-looking piece of land is joined to the mainland by a very remarkable isthmus, consisting of a bank of smooth pebbles which have been cast up by the sea, and which is known as Chesil Bank. You see from



Map of a Peninsula—Portland.

the map that Portland would be an island but for this narrow isthmus, which joins it to the shore. In fact, it is generally called the Isle of Portland.

6. Chesil Bank is about a quarter of a mile wide, and ten miles long. What a long, narrow isthmus! And what a very interesting little peninsula it joins to our coast! Portland

appears almost covered with quarries, from which a valuable kind of stone is obtained for building purposes; and here there is a prison where nearly two thousand men are kept, who are employed in quarrying stone from the hill. On the cliffs, near the sea, there are the ruins of an old castle, which was built more than eight hundred years ago. It is called Bow and Arrow Castle. In the days when this castle was built, the large cannons which our soldiers use in war were never thought of, and the castles were filled with soldiers who defended them from enemies by shooting with bows and arrows through small openings in the walls.

7. But we have now looked at the land

around our coast, and you know something of the capes, with their varied names of point,

head, ness, and bill, and you can tell the difference between an island and a peninsula.

8. Here is a map of the southern coast of England, on which you will be able to point out capes, islands, and other names which you have learned. Try to draw it on your slates.

eas'-i-ly	re-mark'-a-ble	in'-ter-est-ing	de-fend'-ed
nar'-row	Port'-land	quar'-ries	en'-e-mies
pen-in'-su-la	peb'-bles	ob-tained'	var'-i-ed
isth'-mus	Ches'-il	sol'-diers	south'-ern

obtained, *got.* | defended, *guarded.*

Learn and write:

A peninsula is a piece of land almost surrounded by water. An isthmus is a narrow neck of land joining two other larger portions together.

LESSON XIII.

HILLS AND MOUNTAINS.

LEAVING the coast and travelling through the country, we find that the land still varies in shape. Some parts are very flat; others gently rising and sloping. Some are very high; others so high that it seems almost impossible to reach the top.

2. The high parts of the land are called **hills**; the *very* high parts, **mountains.**

3. Those of you who live in a very flat part of the country think it a great treat to walk a few miles from home on a holiday in order to climb the hills, if there are any near enough. You feel that you have reached a great height when you get to the top.

4. But, if you went amongst the mountains, the hills, which you thought so high, would seem very small indeed to you then. You would not dare to climb to the tops of the mountains. It would not be safe for any one to ascend some of them without the help of a guide. Guides are men who live near the mountains, and know all about the winding paths which lead to the tops.

5. There are but few high mountains in England. The centre and east parts of the country are mostly flat; the south is hilly. It is in the north and west that the land rises into mountain heights.

6. The highest mountain in England, Scafell, is 3166 feet high; Snowdon, in Wales, is 3571 feet, or nearly three-quarters of a mile. The highest mountain in the world is more than *five miles* high.

7. The height of the hills and mountains is

not measured from the land at the *base* or foot of them. It is taken from the *level of the sea.* You know that the *flat* parts of a country rise above the level of the sea. If the heights of the mountains were taken from the country at their base, they would not be so great. In

our picture you see that the land rises above the sea, but we should take the height of the hills and mountains from the *sea*, and not from the land.

8. Sometimes the hills and mountains stretch for many miles through a country from north to south, or from east to west, forming one long ridge of high land, with lofty

peaks towering here and there. They thus form what is called a **mountain range** or **chain**. The longest chain of mountains in England is the *Pennine Range*. It stretches from the border of Scotland to the middle of the country, and is often spoken of as the *backbone* of England.

A Mountain Range.

9. In some parts of England, as in Cumberland, though there are many mountain peaks together, they do not stretch away in a line. They form what is called a **group** of mountains. When you are in classes you are *grouped* together, but when you stand in rows for drill, and join hands, you form chains or ranges.

10. There are more ranges or chains of hills than mountains in England, but none of them extend to any very great length. There are

the Cotswold, the Mendip, and the Chiltern Hills, with several others of less height.

leav'-ing	hol'-i-day	heights	ridge
trav'-el-ling	reached	meas'-ured	loft'-y
slop'-ing	a-scend'	lev'-el	tow'-er-ing
im-pos'-si-ble	guides	coun'-try	grouped
mount'-ains	cen'-tre	stretch	sev'-er-al

sloping, *slanting.*
ascend, *go up.*
lofty, *very high.*
towering, *rising high.*
grouped, *clustered or crowded.*
several, *more than two.*

Learn and write:

The high parts of the land are called hills; the very high parts, mountains. The highest mountain in the world is more than five miles high.

LESSON XIV.

MORE ABOUT HILLS AND MOUNTAINS.

THE hills and mountains vary very much in appearance. The hills rise with gentle slopes, and are mostly covered with grass or trees. It is not a difficult task to climb a hill.

2. But the mountains rise in steep and rugged heights. The highest point is called the **peak** or the **summit.** The peaks have many curious shapes. They look like huge rocks with their summits carved out in turrets and towers. No one could reach the tops of

them by a straight path. Snowdon is three-quarters of a mile high, but you would have to walk five or six miles from the base to reach the top, and the journey would take

The Snowdon Group of Mountains.

about three hours. There is often a cloud resting on the top, and the snow remains there long after winter has passed.

3. Looking at a mountain range from a distance, you would think that the only way to get across it would be by climbing to the

top, and descending the other side. But in some parts of the range you would find openings, where the mountains seem to have divided from summit to base. These openings form a road through the mountains, which is called **a mountain pass.**

A Mountain Pass in Wales.

4. But whilst the hills and mountains add so much beauty to our country, and give us so much pleasure, they are of still greater value in many other respects. They shelter us from the cold winds, and cool the very hot ones which would parch the grass and trees. Besides, they catch the clouds as they float along. The water from the clouds streams down the mountain sides, and forms the rivers which water the country below.

5. On the sides of the hills, as well as to a certain height on some of the mountains, there is plenty of grass and herbage for cattle to feed upon. Welsh ponies and Scotch sheep

are very clever mountain climbers, for they are used to grazing on the hills and mountains.

6. Again, we get many useful things from the *inside* of the hills and mountains. Chalk and stone are obtained from pits and quarries made in the hillsides.

7. From the mountains we also get tin, copper, lead, and other metals. They supply us also with granite and other hard kinds of stone used in building. From the Welsh mountains we get the slate with which houses are roofed and your school slates made. The slate quarries are seen along the sides of the mountain. The rocks are blasted by gunpowder, then the broken pieces of slate are next split into suitable sizes.

ap-pear'-ance	sum'-mits	de-scend'-ing	climb'-ers
dif'-fi-cult	tur'-rets	op'-en-ings	graz'-ing
rug'-ged	jour'-ney	re-spects'	quar'-ries
cu'-ri-ous	re-mains'	herb'-age	met'-als

rugged, *rough.*
curious, *strange.*

summits, *tops.*
descending, *going down.*

Learn and write:

Mountains and hills are of great use. They shelter us from the cold winds, and cool the hot ones. By catching the clouds, they cause rain to fall, and rivers to be fed. They supply us with tin, copper, lead, and other useful metals; also with building stone and slate.

LESSON XV.

VALLEYS AND PLAINS.

A View in Dovedale.

FROM the tops of the hills and mountains we can see the hollow, low lands lying between them. They are called **valleys** or **vales.** When *very* narrow, they are called **dales** or **dells,** and sometimes **glens.**

2. We have many pretty dales and vales in England. Some of the most beautiful are amongst the hills of Derbyshire. Dovedale is one of the prettiest.

On each side of it rise green hills and white limestone rocks, while down the valley flows the clear stream.

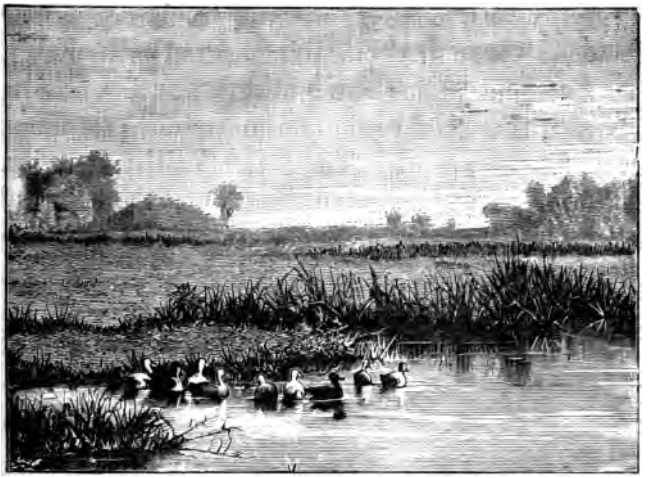
3. We find water in most valleys, either flowing through them, in the form of a stream, or lying in deep hollows and forming ponds or lakes. Very broad valleys are sometimes called *plains.*

4. A **plain** is a broad, flat piece of country stretching far and wide for many miles. Some plains have hillocks rising here and there, but they are so small that the country is still called a plain. The *centre* of England is a plain of this kind.

5. Some plains lie so low, and are so flat, that they are often covered with water. There is a plain of this kind in the *east* of England, lying around the Wash, and stretching for about seventy miles through a part of six counties. This tract of country is called *The Fens* or *Fenland.* If you travelled through this district after very heavy rains, you would find the fields for miles covered with water, often deep enough to float a boat. Some parts near the sea are so low that dikes are built in order to prevent the sea from flowing over the land.

6. Many years ago this plain was waste

land, mostly covered with water in winter, and too wet to grow anything. But now a



View in the Fenland.

great part of it has been drained, by digging deep ditches, called *cuts*, in which the water lies. The land thus drained forms very rich pasture-land for sheep, and in some parts good crops of wheat, barley, and oats are grown. This district is sometimes called the *Bedford Level*, because some of the Earls of Bedford were foremost in the great work of draining it.

7. Most of our English valleys and plains are *fertile*, that is, they are covered with good

soil, which will grow grass and trees, or corn and fruit. In some parts of the world there are immense plains covered with long waving grass, which have never yet been touched by man. These are sometimes called *prairies.*

8. Some plains are nothing but dry, sandy, barren tracts of country almost without trees, grass, or water. They are called **deserts.** There are no deserts in England. You would

A Journey across the Desert.

find a journey across a desert very different from a walk or ride across our plains. The heat is scorching, and water very scarce. In fact, you would have to carry water with you,

lest you should not meet with any for some days.

9. Here and there in the desert are little fertile spots where there are wells, and it is beautiful to see the flowers and fruit-trees growing with the waste of sand all round them. Such a spot is called an *oasis*. Journeys across the desert are made on camels. They go very slowly, but their feet are so made that they can tread well upon the hot sand. Sometimes a fearful wind-storm comes on suddenly, and both men and camels are in danger of being blinded or choked with the dense clouds of sand that are blown along. Men lie down with their faces close to the sand, and camels close their nostrils until the storm has blown over.

hol'-low	stretch'-ing	past'-ure	des'-erts
val'-leys	hil'-locks	fer'-tile	jour'-ney
beau'-ti-ful	dis'-trict	bar'-ren	scorch'-ing
pret'-ti-est	drained	tracts	nos'-trils

pasture, *ground covered with grass.*

barren, *wild, treeless.*

scorching, *burning hot.*

hillocks, *little hills.*

Learn and write:

Valleys are the low lands lying between mountains. Very narrow valleys are called dales, dells, or glens. Plains are wide, flat pieces of land stretching far and wide for many miles.

LESSON XVI.

GLACIERS—VOLCANOES.

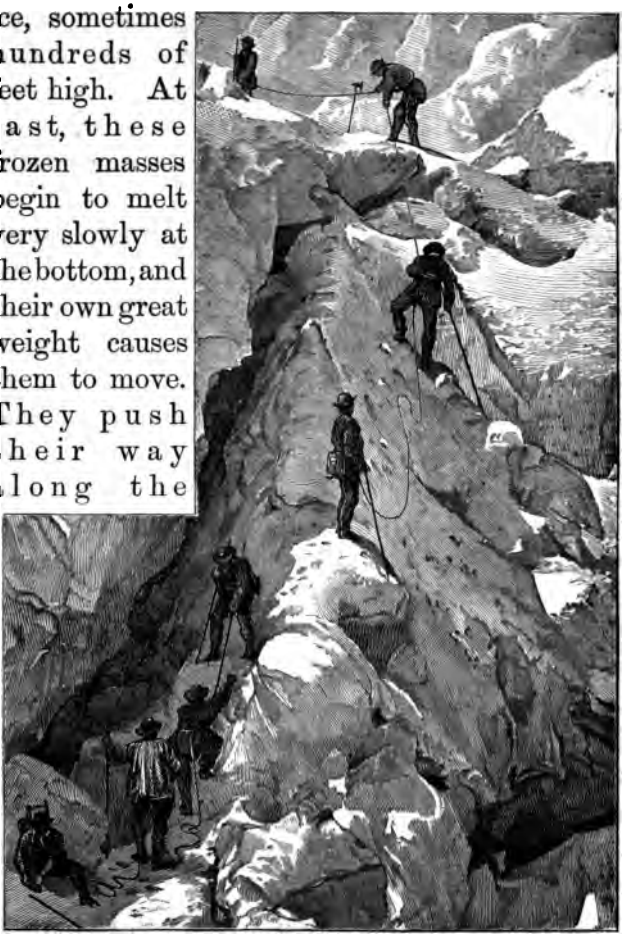
YOU will remember that the snow stays on the top of Snowdon for some time after winter has passed.

2. The tops of many of the very high mountains in the world, such as the Alps, are *always* covered with snow. It is a grand sight to see their white peaks glistening in the sun. Climbing these mountains is very dangerous. People who venture to ascend them take several guides, to whom they are tied with ropes. If one slips, the others may save him by pulling the rope if they do not slip also. Sometimes the rope breaks, and they fall one after the other over the fearful heights, and are killed.

3. There is so much snow on these mountains, that sometimes immense masses of it fall into the valleys below, burying houses, churches, and even whole villages, beneath them; thus causing great loss of life and property. These masses of falling snow are called **avalanches.**

4. Winter after winter the snow gathers on the mountains and in the valleys between

them, until it forms one frozen mass of ice, sometimes hundreds of feet high. At last, these frozen masses begin to melt very slowly at the bottom, and their own great weight causes them to move. They push their way along the



Climbing the Alps.

valleys, melting as they go, and forming streams which water the valleys and make them fertile. These moving masses are called **glaciers**, or rivers of ice. They look very beautiful as they move down the valleys.

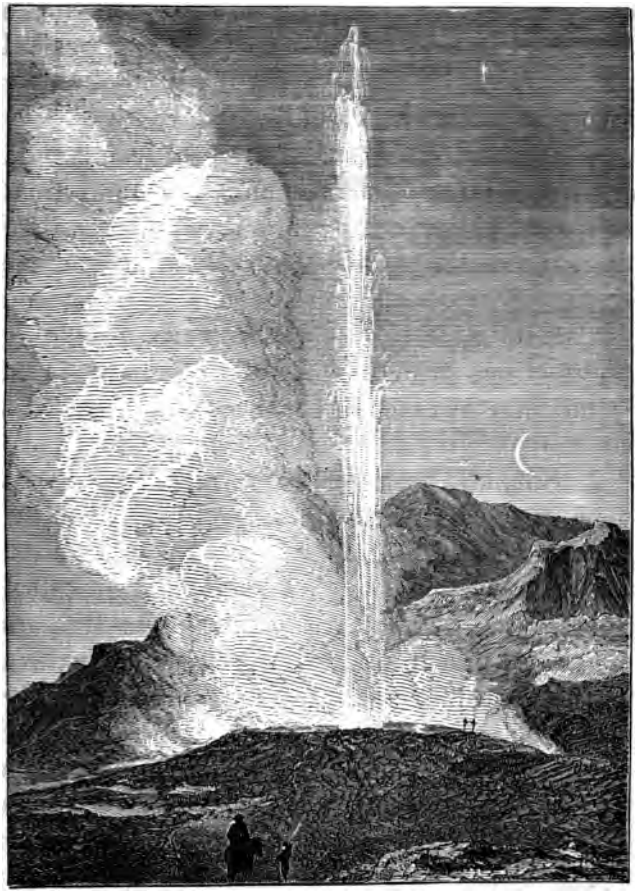
5. In some parts of the world you would find mountains of a very different kind from those we have been speaking of. Instead of snow on their tops, you would see smoke rising. If you went to the top of them, you would see a very deep, wide, round hole in them, from which the smoke comes. You would not care to stay there long, for the smoke is stifling.

6. Sometimes these mountains throw out flames and hot ashes, while the *lava*, or melted rock, flows in streams down their slopes.

7. These burning mountains are called **volcanoes**. About eighteen hundred years ago, a volcano in Italy threw out enough lava and ashes to bury two cities which stood near its base. During the last few years, one of these cities has been partly dug out, and the ruins of houses, streets, and many other things so long buried, have been brought to light again.

8. In one country, called Iceland, there are more than twenty volcanoes. Here, too, are

many boiling springs called **geysers.** These are



The Great Geyser.

almost more remarkable than the volcanoes.

9. Walking across the country, you would come to a number of mounds of rock and stones something the shape of a saucer turned upside down. Peeping over the edge of them, you would find the middle hollowed out like a basin, and filled with clear boiling water. At the bottom of the basin is a deep opening like a pipe, through which the water comes from the earth. Sometimes the boiling water is thrown up with great force through these pipes, and rises in the air to a height of one hundred feet or more.

10. The largest of these springs is called the Great Geyser. Its basin is about seventy feet wide, and four feet deep.

11. In some parts of the world the surface of the earth sometimes begins to shake violently, so that houses and trees are thrown down, and often huge cracks open in the ground, in which people are swallowed up. This is called an **earthquake**. Terrible earthquakes have happened in the history of the world, in which many thousands of people have been buried together with the houses in which they lived.

12. You would no doubt like to see the geysers and volcanoes; but do you think you would like to *live* near them?

re-mem'-ber prop'-er-ty vol-ca'-no
av'-al-anche vil'-lag-es gey'-ser
dan'-ger-ous gla'-ci-ers re-mark'-a-ble

glistening, *glittering or sparkling with light.* | **stifling**, *choking by stopping the breath.*

Learn and write:

The tops of very high mountains are always covered with snow. Huge masses of falling snow are called avalanches. A glacier is a mass of frozen ice. Glaciers move very slowly down towards the valleys, and by melting, feed rivers. A volcano is a burning mountain: a geyser, a spring of boiling water.

LESSON XVII.

TABLE-LANDS, FORESTS, AND MOORLANDS.

THE plains we have already spoken of are *low-lying* lands. But sometimes the tops of the *high* lands of a country form broad plains which stretch for many miles.

2. Plains which are raised to such a height above the level of the sea are called **Table-lands.** They are raised above the low-lying plains, just as the top of a table is raised above the floor of a room.

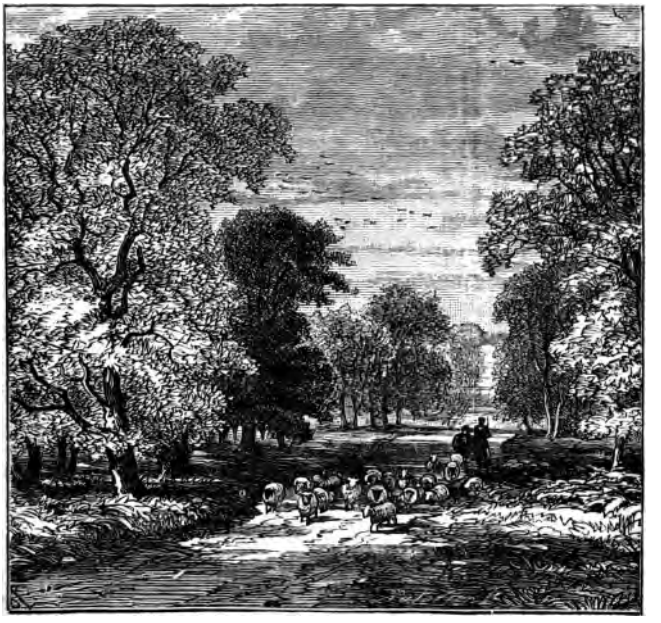
3. Dartmoor, on the high lands of Devonshire, is a table-land. Salisbury Plain is another.

4. You would not find the table-lands all alike in appearance. Some of them, like Dartmoor, are rocky, barren tracts, with huge masses of rock called *tors*, lying upon them here and there. Others, like Salisbury Plain, have what is called a *rolling* surface with gentle slopes and hollows, or, as you would perhaps express it, they are all little 'ups and downs.'

5. Dartmoor affords pasture for a great number of cattle, sheep, and a hardy kind of horses called Dartmoor or Exmoor ponies. Here also is one of our largest convict prisons. It is said to have been a forest hundreds of years ago. A **forest** is a piece of country thickly covered with trees. A great deal of England was forest-land seven or eight hundred years ago. Since England has grown such a busy country, these forests have been cut down to make room for fields, towns, railways, and good roads.

6. The only very large forest we have in England now is New Forest in Hampshire. This district was turned into a deer-forest eight hundred years ago by William the Conqueror, for an old history tells us that he loved the great deer as if they were his children. One of his sons, the next who succeeded him on

the throne, was killed here while hunting, by an arrow, and it was never known whether



Road through the New Forest.

it was by accident or no. From the oak-trees of the New Forest we get a great deal of fine timber.

7. Sometimes the high lands are covered with *moors*. A **moor** or **moorland** is a tract of waste land covered with heather and a little scanty grass. There are extensive moors in

Scotland, and on the hills of Yorkshire and Derbyshire. Many birds, such as the grouse, find food and shelter in the heather.

8. The eastern parts of Yorkshire and Lincolnshire are occupied by bleak uplands which are here called **wolds.** Another name, that of **The Downs,** is given in some parts of England to a ridge of sandy uplands. The name is especially applied to the **North** and **South Downs,** two low broad ranges of sandy pasture land, south of the river Thames, and separated from each other by the valley known as the *Weald.*

9. We have now traced the chief names of the land both round the coast and inland. If you try to remember them, you will feel much greater interest in things when you travel.

10. As you walk through the country, or steam along by train, you will be able to speak of the heights and hollows as hills and dales, mountains and valleys. You will know the difference, too, between a plain and a table-land; and will remember that a forest is land thickly covered with trees, and a moor with heather.

11. Then, when you reach the coast you will know about cliffs and capes, rocks and sand-banks; and will be eager to visit a lighthouse,

or to see where the lifeboat is kept ready for going to the rescue when a ship is in distress.

ta'-ble-lands	sur'-face	thick'-ly	in'-ter-est
ap-pear'-ance	hol'-lows	cov'-ered	val'-leys
mass'-es	ex-press'	scant'-y	dif'-fer-ence
roll'-ing	for'-est	ex-ten'-sive	sand'-banks

surface, *top.* | scanty, *poor, short.*

Learn and write:

A table-land is a high plain. A forest is a large piece of land thickly covered with trees. A moorland is a tract of wild, waste country covered with heath.

LESSON XVIII.

CLOUDS, RAIN, SPRINGS, AND RIVERS.

EVERY one of you has got a wetting from the rain at some time, but have you ever asked where the rain came from? It comes down from the sky, but how did it get up there? Now, our lesson will tell you this, so that you need not be at a loss next time you are asked this question.

2. When a kettle of boiling water is on the fire, you see steam or vapour coming out of the spout, and trying to escape from beneath the lid. Now, what becomes of this vapour? It passes into a new form; it becomes little drops of water. If you hold a spoon at the mouth of the kettle, you will see water beginning to gather there, and after a little the spoon will become quite full. This water in the spoon is the steam which you saw coming out of the kettle, and it has become water because the cold air has cooled it until it took that form.

3. You often stand to watch a passing train. As the steam comes curling out of the engine, you think it looks like *clouds*. If you stand near where the train passes, you will feel little drops of water falling on your face from the steam which has risen into the air. The reason for this is the very same as in the case of the kettle. The heat from the fire in the engine caused the steam to rise from the water, and the cold air above cooled it, and turned it into little drops of water again. Now, the sun acts on the water on the surface of the earth exactly in the same way as the fire acts on the water inside the kettle or in the boiler of the engine. The heat of the sun

sucks up the water from the rivers and lakes, but most of all from the sea, and changes it into the form of vapour, which rises up into the air and forms what we call **clouds.** A very easy plan for you to show that this is true, is to put out a saucer of water in the sun and watch what happens. After a while, the saucer will be dry. What has become of the water that was in it? It has been sucked up into the air like the water from the sea.

4. Now, here is another thing for you to do. Take a spoon and hold it over a cup of hot tea without letting it touch it. After a few minutes you will see the spoon all covered with a white kind of steam, which is wet to the touch. Now, take the spoon away and lay it down anywhere, and in a minute or two you will see that it has become dry of itself, and that it is wet to the touch no longer. The white steam you saw was the hot vapour rising from the hot tea, and you felt it wet because the cold air had changed it into drops of water; and the reason why the spoon became dry of itself when you laid it down was, that the water upon it had been sucked up into the air.

5. The air underneath them bears up the clouds, and the wind, which is merely moving

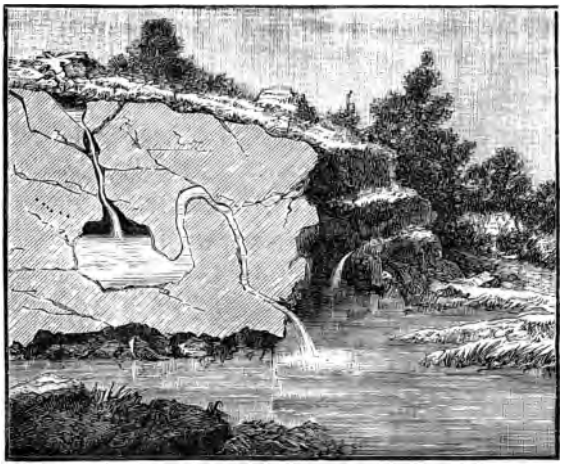
air, carries the clouds along the sky until t water in them is more than the air can suppo then the cloud forms into raindrops, and do falls the rain. Sometimes the air is so co

A Mountain Stream.

that the drops, as they fall, are frozen in snow or hail. When a cloud is hanging ve low down, it is called a **mist** or a **fog.**

6. Part of the rain sinks into the soil, part is sucked up into the clouds, and a part runs off the surface. Now, it is the water that runs off the surface that makes the **streamlets.** The rain runs off the slopes of the country in little **rills,** which join together to form little **brooks,** and many brooks join their waters together till they become a **river,** which gets bigger and bigger all the way to the sea, because it is continually receiving water from both sides.

7. Some of the rain sinks into the ground



A Spring.

through the loose soil on the hills and mountains, until it reaches the hard rocks, and

cannot sink lower. Then it finds its way through holes in the rocks, and forms what are called **springs.**

8. These springs bubble out from the sides of the mountains, and their waters flow down to join the rivers, and through them to find their way to the sea.

9. Thus rivers are fed by springs as well as by brooks and rills, and this is the reason why there is almost always water in rivers, and not after there has been rain only.

10. A **river** is the largest of all streams. It flows into the sea, and thus a great deal of the water which the sun drew up to form the clouds, is returned to the sea. What a long journey it has had! First to the sky, to make clouds; then to the earth in drops of rain, making springs, brooks, streams, and rivers; and at last finding its way to its old home in the sea, from which it will be sucked up again to go through the same round of changes.

wet'-ting	curl'-ing	ex-act'-ly	brooks
be-neath'	en'-gine	in'-side	rea'-son
va'-pour	caused	un-der-neath'	re-turned'
pass'-ing	sur'-face	bub'-ble	jour'-ney

caused, *made.* | vapour, *steam.*

Learn and write:

Rivers are fed by springs and brooks.
A river is the largest kind of stream.

LESSON XIX.

MORE ABOUT RIVERS.

The Beginning of a River.

A RIVER is formed by many brooks and streams, and fed by the water of many streams; but we always take one brook or spring as the starting-point of the river, and call it its **source**. The chief river of England, the Thames, has its source in the Cotswold Hills. Here you would find several springs oozing out from the hills, and forming a tiny stream, so small that you would scarcely think it could be the beginning of the wide and busy river which you see in London.

2. But if you followed this little stream for a few miles, you would soon find out how it is changed into a great river, getting deeper and wider the farther it goes.

3. Many other streams and rivulets come

flowing into it as it winds along. These are called its **tributaries** or **feeders**, because they bring or pay to the river the *tribute* of their waters.

4. The bottom of the river is called its *bed*, and the land on both sides of it, its *banks*. As you walk down the river in the direction in which it flows, the land on your right is called the *right bank*, that on your left the *left bank*.

5. When we say 'London is on the Thames,' we mean that it is built upon the banks of the river.

6. Here is a small map of the Thames, showing you its tributaries, and the towns upon its banks.

7. The place where the river runs into the sea is called its **mouth**. Sometimes a river-mouth is very wide, and the tide flows up into

it for some distance. It is then called an **estuary**, and a river up which the tide flows for some distance is often called a *tidal river*.

The Humber at Hull.

8. Many rivers bring down so much mud that they choke up their mouths, and the water flowing on each side of the banks thus formed makes what is called a river *delta*. This name was given to them because the one best known to the ancients, that of the Nile, was like the Greek letter Δ, called *delta*.

9. What busy scenes we see near the mouths of our large rivers! Large towns built on each bank; bridges spanning the rivers, people hurrying across them; whilst on the rivers themselves we see whole forests of masts rising from hundreds of vessels lying there. Such towns are called *ports*. Our picture shows you the estuary called Humber Mouth, and the busy port of Hull on its left bank.

10. A **port** is a place where vessels are loaded and unloaded. **London** is the largest port of England. Ships from all parts of the world come there. Here, too, you see sailors of various colours, and hear many different languages spoken around you.

11. The goods which are brought by these ships *from* other countries are called **imports,** those which we send out *to* other countries are called **exports.**

12. You will see how safe the ships are from the fury of the sea when they sail up the river-mouths. Places of safety for ships are called **harbours** or **havens.** You will be able to find **Milford Haven** on the map. It is one of the best harbours in the world. Our picture shows you Ramsgate harbour, and from it you will see that harbours are

not always river-mouths. Sometimes the ports are nearer the coast, and a harbour is made by building strong sea-walls some distance out to break the force of the waves. Such walls are called **break-waters.** At Portland there is a great break-water extending into the sea for more than two miles.

Ramsgate Harbour.

13. Harbours not

made by man are called *natural* harbours, **roads** or **roadsteads.** They are often formed by sandbanks, which lie some distance from the shore. The banks break the force of the waves just as the sea-walls do, leaving the water between them and the shore so calm that ships may ride there quite safely. *Now* you see how it is that the dangerous Goodwin Sands are of great use to those ships which escape their perils—they form a natural harbour or roadstead, called *The Downs.* The channel between the Isle of Wight and the coast of Hampshire is called in one part the **Solent**, and in another **Spithead.** Here ships can ride in safety even when it is very stormy in the English Channel. **Yarmouth Roads,** on the east coast of England, and **Plymouth Sound,** on the south coast, are also famous places of shelter in storms.

ooz'-ing	riv'-u-lets	span'-ning	ex'-ports
scarce'-ly	trib'-u-tar-ies	un-load'-ed	har'-bour
be-gin'-ning	es'-tu-ar-y	col'-ours	break'-wat-er
fol'-lowed	scenes	im'-ports	nat'-u-ral

oozing, *flowing gently.* | spanning, *crossing.*

Learn and write:

The beginning of a river is called its source; the part where it ends is its mouth. A harbour is a place of safety for ships. A roadstead is a natural harbour where ships can ride in safety.

LESSON XX.

WATERSHED, RIVER-BASIN, AND LAKE.

1. After a heavy shower of rain, you have noticed the little streamlets on the roadside running down, seeking for a lower level. If you walk up a hilly part of the road, you will meet the little streams trickling down all the way; but when you get to the top of the slope, and go down the other side, you will see them running as quickly down in the opposite direction. At the top of the hill the rain seems to divide, part flowing off to one side, part to the other.

2. If you were to go up a river from the sea, you would see it becoming narrower and narrower, and you would find yourself getting higher and higher, until at last you reached the source of the river high up on some mountain side. Now, if you climbed over the top of the mountain, and then descended on the other side, you would find streams running down the opposite direction. The mountain, like the little hill on the road, divides the water, and so we have rivers running down in different directions from the same mountain-top.

3. Here is a picture of some mountains, with rivers running down on both sides. From this

you will see that the high land separates one set of streams from another. Such a piece of high land is called a **watershed** or **water-parting**. When rain falls upon the mountains, the ridge or top of them *parts* it, and some is *shed* down one side, some down the other.

4. When hills are joined together, forming a range, the watershed may be marked by a line running all along the top of the range. Thus you see how it is that some rivers flow to the east, and some to the west of the high lands of the country. The mountains part the water, and cause it to flow off in different directions.

5. If you will look for a moment at this little map of part of England, you will see that there are rivers on each side of the high land which is called the Pennine Range.

6. If the land in the valleys did not slope so that the water could flow away by the

rivers, you can easily see what would be the result. A great part of the country would at times be covered with water like the Fens.

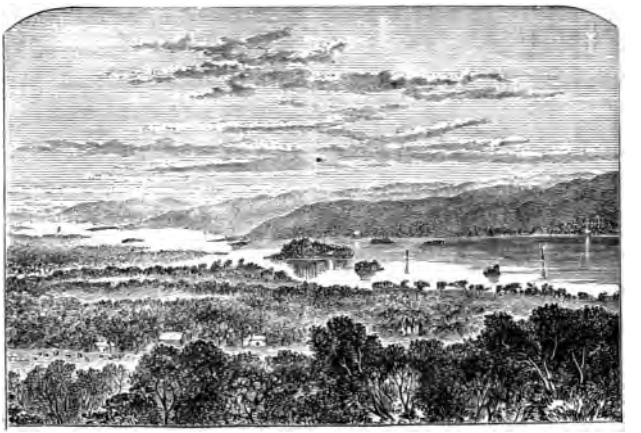
7. You will remember that the Fenland has to be drained by means of ditches, which have cost much money and hard labour. But rivers are the *natural* drains of a country. You will see of what very great use they are in this respect.

8. If you draw a line along the sources of all the tributaries of a river on both sides, you will find that what you have drawn looks somewhat like a big trough or basin, except that it is open at one end where the river runs into the sea. The whole land within the line is called the **basin** of the river. The whole extent of land, then, which a river and its tributaries drain, or through which they flow, is called a **river-basin.** A water-shed is the high land which separates one river-basin from another.

9. Have you noticed how the rivers *wind* along? They do so where the ground does not slope much, seeking for more sloping ground to carry them away.

10. On the surface of the land there are hollows called **lakes**, which arrest part of the flowing water, just as there are little pools or hollows on the road which collect a little of the rain. But most of these lakes let the water run out at the lower end as fast as it

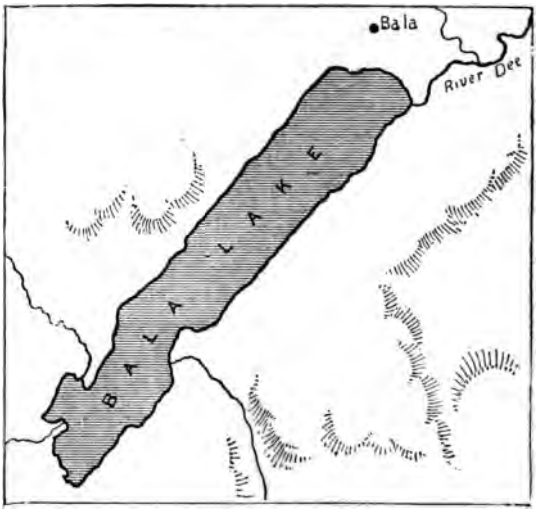
runs into the upper, so that they do not keep the water, and the streams which escape from lakes go on as before, working their way to the sea. Some lakes have no outlet, and they would come to overflow their banks and flood the country around, if the surplus water was not sucked up into the air, just in the same way as the water from the sea.



View of Windermere.

11. A lake, then, is a sheet of water with land all round it, just as an island is a piece of land with water all round it. In some parts of the world, there are lakes very much larger than all England. Some of these are filled with fresh, others with salt water. Many

lakes have hills or mountains round them, sometimes coming down quite close to the water's edge. Sometimes the steep slopes are covered with a rich dress of trees, which cast their dark shadows over the calm surface of the lake. The most beautiful of our English



Map of Lake—Bala Lake.

lakes is **Windermere**, the finest one in Wales is **Bala Lake**.

12. Sometimes a river rises very high in the mountains, and, after running down as a mountain stream, it winds slowly along a table-land. Then, when it reaches the edge of the table-

land, it goes dashing and foaming over it and forms a **waterfall.** Other names for a waterfall are **cascade** and **cataract.** Our picture shows you a waterfall in the Isle of Man.

trick'-ling
nar'-row-er
op'-po-site
wat'-er-shed
eas'-i-ly
ditch'-es
re-spect'
sep'-ar-ates
run'-ning
foam'-ing
wat'-er-fall
cat'-a-ract

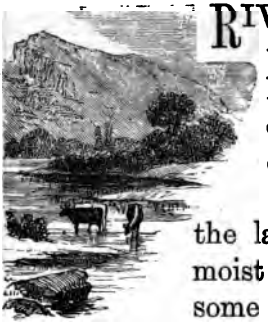
trickling, *flowing gently.*
separates, *divides.*

Learn and write:

A river-basin is the whole land drained by a river and its tributaries. A watershed is the high land which separates one river-basin from another.

LESSON XXI.

THE USES OF RIVERS.

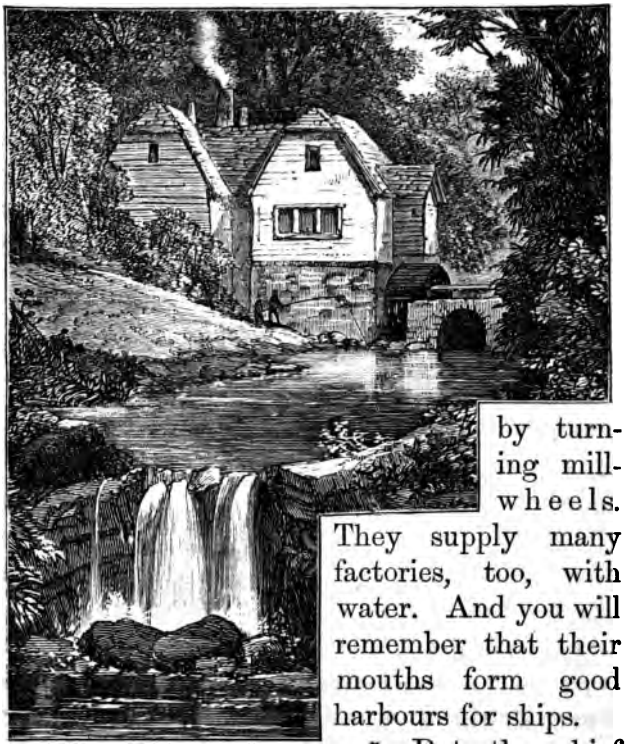


RIVERS are of very great use to a country. You have already learned that one of their chief uses is to drain the land.

2. But, besides draining the land, they help to keep it moist when no rain falls for some time, and thus prevent it from becoming parched and barren.

3. You have often seen a thick mist rising from the rivers and streams as you have strolled through the country on a cool summer's evening. It has probably been a very hot day; the grass looks scorched, and the trees and plants withered. But the hot sun has warmed the river-water, and the cool evening air has turned the vapour rising from it into mist. It does not rise high like the clouds, but floats away over the valleys, giving moisture to the ground, and new life to the trees and plants.

4. Then the rivers do not flow idly along, for as they go they help to grind corn



by turning mill-wheels. They supply many factories, too, with water. And you will remember that their mouths form good harbours for ships.

5. But the chief use of rivers is for carrying goods from one place to another. Towns are built upon their banks, and barges move between one town and another carrying goods very cheaply. The

barges are drawn along by horses, which walk along the banks, pulling a rope which is fastened to them. The places where the barges are loaded and unloaded are called *wharves.*

6. When there were no railways and few good roads in England, the rivers were the chief means of conveying goods. In some parts of the country, where there were no rivers, or none wide enough for trade, canals were cut to join larger rivers together, so that barges could go right across the country from one river-mouth to another. There are many miles of canals in England, but no one ever travels by them, nor are so many goods sent upon them as in the days when there were no railways.

drain'-ing	prob'-ab-ly	sup-ply'	wharves
be-com'-ing	with'-ered	fac'-tor-ies	con-vey'-ing
parched	moist'-ure	car'-ry-ing	can-als'

parched, *dried up.*
strolled, *wandered along.*
probably, *most likely.*
conveying, *carrying.*

Learn and write:

Rivers are of great use to a country. They drain and moisten the ground, and are of great service in conveying goods from one place to another.

LESSON XXII.

Tell Me, Pretty Streamlet.

GUSHING from the hillside,
Sparkling little rill,
Sweetly sounds your music,
All around so still!
Whither are you going,
Winding, rushing so?
Through the lovely valley
Will your waters flow?

2. Will the little birdies
Join their tuneful song
To your rippling murmur
As you flow along?
Other little streamlets
Join you on your way,
Paying cheerful tribute
All the live-long day?

3. Will you still grow larger
As you onward go?
Turn the splashing mill-wheel,
Make the mill to go?
Will you carry barges?
Harbour mighty ships
From the ocean's fury
And the blast that nips?

4. Tell me, pretty streamlet,
Winding through the wood,
May my life, like yours, be
Spent in doing good?

LESSON XXIII.

ROUND THE COAST AGAIN—BAYS AND GULFS.

ROUND the coast again! Not this time to speak of cliffs and headlands, islands or peninsulas; but to find out the names of

the openings which the sea makes in the land.

2. Look at the map for a moment to see of what different shapes and sizes they are.

Bay on the Cornwall Coast.

Some of them are very wide, but do not run far into the land. Such openings are called **bays**.

3. *Cardigan Bay*, on the west coast, is the largest one in England. There are many smaller ones; some of them very beautiful too.

They seem to have been cut out in pretty curves by the sea.

4. Many of the smaller bays make excellent harbours for ships, which are well sheltered by the land that runs so far round them.

5. In the bend of bays are some of the watering-places which in summer are so crowded with visitors.

6. Openings which run far into the land, but are not so wide at their mouths as bays, are called **gulfs**. We have no openings with this name in England.

7. River-mouths are something like gulfs, but not so wide, nor so long. Solway Firth, which partly divides England from Scotland, is a gulf, but only a small one. In Scotland, many gulfs running far into the land are called **lochs.**

8. A gulf is called an *arm* of the sea, just as an isthmus is called a *neck* of land.

op'-en-ings	ex'-cel-lent	sum'-mer
dif'-fer-ent	shel'-tered	crowd'-ed
beau'-ti-ful	wa'-ter-ing	di-vides'

excellent, *very good.* | sheltered, *kept safe.*

Learn and write:

A bay is a part of the sea making a wide opening in the land, but not running very far into it. A gulf is an arm of the sea running deep into the land.

LESSON XXIV.

STRAITS AND CHANNELS.

YOU will remember the picture of the cliffs of Dover on page 25. They rise to a great height. Looking across the water, from the top of them, on a very clear day, you would see other white cliffs rising on the opposite side. These form part of the coast of France.

2. Since they can be seen so plainly from the Dover cliffs, you will at once see that there must be but a narrow stretch of water between the two countries. It is called the Straits of Dover.

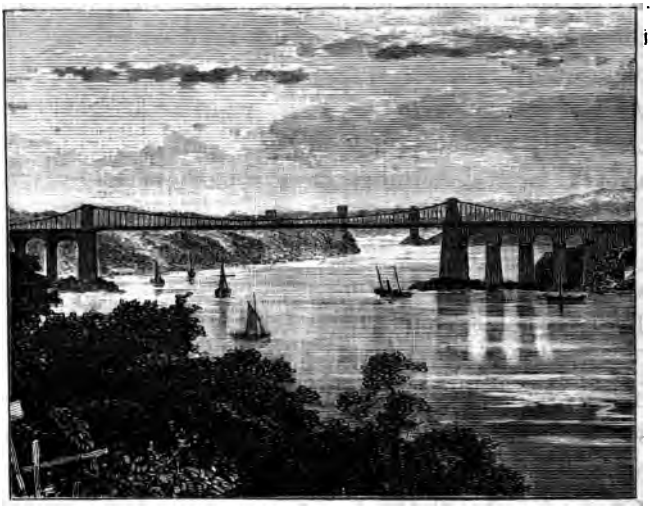
3. A **strait** is a narrow passage of water which joins together two larger pieces of water.

4. If you look at the map, you will see that Dover Strait joins together the two larger portions of water which lie on the east and south of England.

5. Dover Strait is twenty-one miles across. Some straits are much wider, and others much narrower.

6. The *Menai Strait*, between the Isle of

Anglesea and the coast of North Wales, is

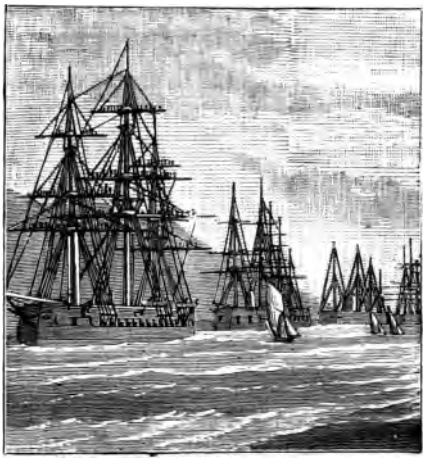


Menai Strait.

a much narrower strait. It is only about half a mile across in its widest part, and is crossed by two fine bridges built high enough for ships to pass under them. One of them is called the *Tubular Bridge*, because it is made of immense iron tubes, which form a kind of tunnel, through which the trains pass. The other bridge is used for carriages and foot-passengers. It is called the *Suspension Bridge*, because it is suspended or hung by huge iron chains.

7. It would not be so easy to build a bridge across the Straits of Dover. But at present there is a scheme for crossing it in a still more wonderful manner, namely, by a tunnel *under the bed of the strait!* How would you like to travel by train, for twenty-one miles, through a dark tunnel, with the Straits of Dover overhead?

8. When a strait is very wide it is called a **channel.** The English Channel lies between the south coast of England and the north coast of France. It is about 140 miles across in its widest part.



We generally speak of it as *The* Channel. Along the coast here many of our ships of war are stationed, and together form what is called *The Channel Fleet.* How quickly these ships would be out in the Channel if an enemy approached our shores!

height	nar'-row-er	im-mense'	scheme
op'-po-site	crossed	tun'-nel	Chan'-nel
plain'-ly	e-nough'	sus-pend'-ed	sta'-tioned
pass'-age	tu'-bu-lar	car'-riage	ap-proached'

immense, *very large.*
suspended, *hung.*
scheme, *a plan.*
approached, *came near.*

Learn and write:

A strait is a narrow passage of water joining two larger pieces together. A channel is a wider passage than a strait.

LESSON XXV.

SEAS AND OCEANS.

WHEN we speak of the ocean, we mean the great body of salt water which covers so large a portion of the earth. But, in order that we may know one part from another, it is divided into five portions, still called oceans, but each having a different name of its own. Thus, the wide stretch of water between England and America is called the Atlantic Ocean.

2. An **ocean**, then, is the largest division of water. The land is also divided into *five* great parts called **continents.**

3. It would take many pages to tell you of the wonders of the ocean. You would like to hear of the many kinds of animals, fish, and plants which are found in it.

4. Besides the storms, in some seas ships have many dangers to meet in the form of *coral reefs* and *icebergs.* Girls know what coral is, for many of them are fond of coral beads. Coral reefs or islands are formed by small insects, and they are often under the water, so that ships sometimes dash against them, and are wrecked.

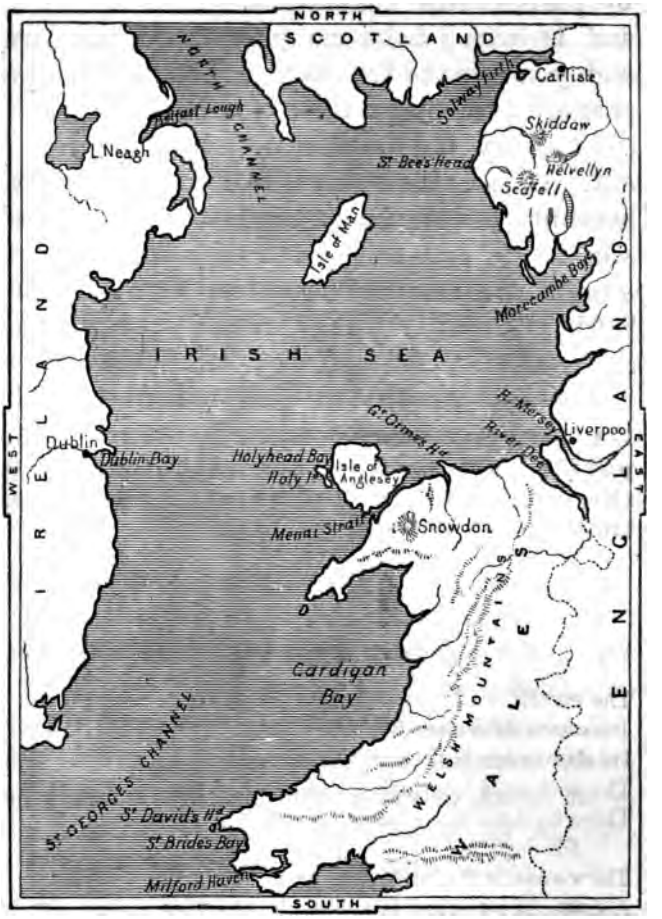
5. Icebergs are immense masses of floating ice. You will have a better idea of their size if we call them *mountains* of ice.

6. Looking round the coast, you will see that several of the larger portions of water, which the straits and channels join together, are called *seas.*

7. A **sea** is a large body of salt water partly inclosed by land, and joined to the great ocean, or some other sea, by a strait or channel.

8. On the east of England we have the *North Sea;* and on the west, the *Irish Sea,*

which you would have to cross in sailing from Liverpool to Ireland.



9. Here is a map of the Irish Sea. You will see it is partly inclosed, or shut in, by parts of the coasts of England, Scotland, and Ireland. Look carefully round this sea, and you will find a bay, a firth, a strait, a channel, and several river-mouths.

10. Very large lakes are sometimes called seas. The Caspian Sea is really a lake, but on account of its great size it is called an *inland sea.*

o'-cean	stretch	sail'-ing	care'-ful-ly
di-vid'-ed	con'-ti-nents	in-closed'	ac-count'

inclosed, *shut in.* | portion, *part.*

Learn and write:

A sea is a large body of salt water partly inclosed by land. An ocean is the largest division of water; a continent, the largest division of land.

SUMMARY.

The **earth** is a large ball, globe, or sphere.
Its **circumference** is about 25,000 miles.
Its **diameter** is about 8000 miles.
The surface of the earth is composed of **land** and **water.**
There is three times as much water as there is land upon the earth.
The **coast** is the land next the sea.
A **cape** is a piece of land jutting out into the sea.

An **island** is a piece of land entirely surrounded by water.
A **peninsula** is a piece of land *almost* surrounded by water.
An **isthmus** is a narrow neck of land joining two other portions together.
Mountains are the greatest heights to which land rises.
Hills are smaller heights than mountains.
Valleys are the low-lying lands between mountains and hills.
A **plain** is a flat piece of country stretching far and wide for many miles.
A **table-land** is a high plain.
A **forest** is a piece of land covered with trees.
A **moorland** is a tract of wild, waste land, covered with heath.
A **lake** is a large sheet of water with land all round it.
A **river** is the largest kind of stream.
A **harbour** is a place of safety for ships.
A **river-basin** is the whole country drained by a river and its tributaries.
A **watershed** is the high land which separates one river-basin from another.
A **bay** is a part of the sea making a wide opening in the land.
A **gulf** is an arm of the sea running deep into the land.
A **strait** is a narrow passage of water joining two larger pieces of water together.
A **channel** is a wide strait.
A **sea** is a large body of salt water partly inclosed by land.
An **ocean** is the largest division of water.
A **continent** is the largest division of land.

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